

COUNTY COURT OF THE STATE OF NEW YORK
COUNTY OF ONONDAGA: CRIMINAL TERM

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THE PEOPLE OF THE STATE OF NEW YORK, :

Respondent, :

-against- :

AFFIRMATION

Indictment No. 92-1114-1

HECTOR M. RIVAS, :

Defendant-Appellant. :

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Under the penalty of perjury, Cyril H. Wecht, M.D., J.D., an attorney and a forensic pathologist, affirms the following to be true, upon information and belief, based upon his professional training and acumen, a review of the reports generated in connection with the autopsy performed upon the body of Valerie Hill, the transcript of the appellant's trial, research of the appellant's case and conferences with the defendant Hector M. Rivas and H. Mitchell Schuman:

1. I am a forensic pathologist and an attorney. As such, I am qualified to understand both the legal and medical implications of autopsy findings. I am accepted as an expert in my field in numerous jurisdictions and have so testified in many states. I received my medical degree from the University of Pittsburgh School of Medicine and my Juris Doctor degree from the University of Pittsburgh School of Law. I am currently the Coroner, Allegheny County, Pennsylvania and the former Chief Pathologist and currently Forensic Pathologist at St. Francis Central Hospital, Pittsburgh, Pennsylvania. In the years that I have been a forensic pathologist I have also been widely published. A copy of my Curriculum Vitae is appended to this affirmation.

2. As a result of my review of the Valerie Hill case, I have concluded that a fair review of the whole of the evidence with regard to the autopsy performed upon the decedent demonstrates that the conclusions reached by Dr. Erik K. Mitchell were without scientific basis and, further, that the

assumptions that supported his findings were inapposite to accepted scientific methods in the field of forensic pathology. Contrary to the Medical Examiner's ultimate conclusion herein that the time of death was longer than 48 hours after the discovery of the body of Valerie Hill on Monday March 30, 1987, the important relevant factors pointed to the fact that Ms. Hill had been dead for less than 36 hours at the time that her body was discovered.

3. In determining the time of death, a number of factors must be examined or considered in providing that estimation. These factors include livor mortis, algor mortis, rigor mortis, decomposition changes (if present), stomach contents with history of constituents of last known meals and information regarding the last time the deceased was seen or spoken to.

4. The first four factors all are influenced by the surrounding environment. All of them are increased by a warm temperature and decreased by a cold temperature. In average temperate conditions, development of these factors is fairly standard, allowing for a more reproducible estimation of the time of death.

5. In this case, I feel that the apartment likely did have temperate conditions, with the temperature around 70°F, for the following reasons: The first is that Ms. Hill was able to walk around the apartment in only a robe and shirt (as she was found), indicating the apartment was unlikely to have been cold. The second is that all the plants appeared green, healthy, and growing, indicating again that the apartment was likely kept at a comfortable temperature. Dr. Mitchell, in his testimony and scene investigation report, stated that the apartment was very cool, but he has no actual temperature reading recorded to substantiate what he stated in court, namely, that he thought it was 62°F. Also, he may have come to the scene from a heated environment, such as his car, giving him the impression that the temperate climate was cool. Finally, with all the officers, investigators, and

Dr. Mitchell present, the temperature may have decreased due to numerous door openings.

6. The temperature of the body is a factor in the estimation of the time of death. Usually, when the area a person is in is cold, not just cool, rigor mortis and livor mortis can be substantially prolonged, and decomposition can be delayed. Dr. Mitchell, however, tried to use this and ignore it. He said that cooling retarded the loss of rigor mortis, in order to lengthen his interval of the time of death. At the same time, he also said the amount of brain decomposition had to equal a long duration since death because the decomposition was so advanced, without realizing that cooling should have delayed it.

7. I feel the temperature was more temperate. Even if the temperature averaged around 60°F, to have rigor without any flaccidity, no matter if easily broken, the time of death would not have been more than 48 hours. Thirty-six hours is what is expected to lose rigor at 70°F. Livor mortis is usually a purple discoloration of the skin in dependent areas of the body due to the accumulation of blood in the small vessels of these areas, secondary to gravity. Livor is usually evidenced within ½ hour to 2 hours after death, and it becomes fixed by 8 to 12 hours under normal temperatures. When a body is cooled, fixation may be delayed up to 24 to 36 hours. Prior to fixation, if the body is moved to a new position, some of the blood will redistribute, causing livor to be seen on more than one side of the body, depending on how soon after death the position is changed. For the most part, livor is not a good measurement in determining the time of death, but rather, it is better for determining if a body had been moved after death. In this case, Ms. Hill is described as having fixed anterior livor mortis, which is consistent with the position that her body was found in, and only indicates that she was dead longer than 12 hours. On page 871 (line 12) of the trial testimony, Dr. Mitchell states, "There was fixed and unfixed livor present. If this is true, his estimation of the time of death being

longer than 48 hours would be grossly inaccurate. It is important to learn what Dr. Mitchell was calling unfixed livor.

8. Algor mortis is the temperature of the body when found. Using this in an attempt to determine the time of death can be very inaccurate, because one assumes that the body temperature was normal at the time of death, and that after death, the body cools uniformly over time. In this case, no core temperature of the decedent was taken, so no estimation can even be attempted.

9. Rigor mortis is the stiffening of the body due to permanent complexing of actin and myosin in the muscles, secondary to depletion of the energy source required to make them move, i.e., ATP (adenosine triphosphate). Dr. Mitchell stated that this begins in the jaw, but in fact, it begins in all the muscles at the same time and is evident first in muscles of smaller mass, specifically those of the face around the jaw. Rigor usually begins within 2 to 4 hours, and can be fully developed in 6 to 12 hours. This is variable. Individuals who have physically exerted themselves prior to dying may have rigor begin within minutes after death. As Dr. Bernard Knight notes, in his book, Forensic Pathology (1996, P. 61), "If the body feels cold and flaccid, it has been dead more than 36 hours", given average temperate condition. This implies that as long as rigor is present, even if "easily broken", the decedent has been dead less than 36 hours. In this case, Dr. Mitchell examined Ms. Hill at approximately 3:30 P.M., on March 30, 1987. Based on the presence of rigor and a fairly temperate climate around the body, it is *highly unlikely* that she was dead before the previous 36 hours, which would be in the early morning of Sunday, March 29. If Dr. Mitchell was correct and the apartment was "cool", not "cold", thus estimating an average temperature of 60°F, I do not feel that this could have put the range beyond a total of 48 hours. Rigor was, in fact, still present throughout the body and had to be "broken" to be removed. This would mean that Ms. Hill's death occurred no earlier

than approximately 3:30 P.M., on Saturday, March 28, well after the time Mr. Hector M. Rivas could have been present in the area of her apartment.

10. Decomposition changes usually applies to external findings of the body, such as green discoloration of the skin or skin slippage. The green skin discoloration usually begins in the lower abdomen within 24 to 36 hours, and since it was not present, this fits with the estimation of the time of death noted above with rigor mortis. If Dr. Mitchell was correct that the room was cool, decomposition may have been retarded, but again, I do not feel that this could have been for more than 48 hours. Decomposition of internal organs is highly variable, and cannot be used for the determination of the time of death. Dr. Mitchell states that decomposition of the brain is very important in determining that the death occurred more than 48 hours before. I have often seen mild softening of the brain 24 to 48 hours after death, as Dr. Mitchell himself described in his own protocol. In court, he stated that the "holes" in the brain tissue showed more advanced decomposition, but George Collins, M.D., who examined the brain, made the diagnosis, "Normal brain with postmortem decomposition." The brain had been fixed in formalin. To properly fix a brain takes at least 10 days, so that the formalin fully penetrates and fixes the brain. During the first days in formalin, only the outer portion of the brain becomes fixed, and the inner portion may continue to decompose, forming cystic cavities. Thus, unless the brain is cut at the time of autopsy, it is useless to base an estimate of the time of death on decomposition changes within the brain that likely progressed during the fixation period.

11. Stomach contents can be very important, if one accurately knows what the decedent's last meal was and can clearly distinguish portions of that meal within the stomach contents. In Ms. Hill's case, only "congealed grease" and fluid was present, with no determination except for drugs and

alcohol as to their nature being made. She had access to alcohol in her own apartment, so she may have had a drink at any time after her family and friends last saw her. Thus, the use of alcohol levels is not reliable in this case.

12. During the trial, a great deal was made about the last time Ms. Hill was seen or spoken to. There was a police report indicating that she may have been seen as late as 8:30 A.M., on Saturday, March 28, 1987, and not on Friday night, March 27. However, the rigor mortis status, the lack of decomposition changes and the actual physical findings are more important than these "unscientific" findings.

13. Dr. Mitchell's testimony about why he enlarged the period of the time of death does not make sense. I feel the death occurred within a maximum of 48 hours, as Dr. Mitchell first appeared to have concluded, and not closer to 72 hours, as he appears to have expanded the time frame subsequently. As previously noted, the use of "brain decomposition" is totally unreliable and cannot be factored into this determination.

14. The examination of the brain or brain slides is an unreliable aid in estimating the time of death. Unless the brain is cut at the time of autopsy, it will continue to decompose even during fixation, making any determination of the time of death based on it unreliable.

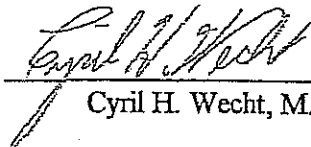
15. I believe that Dr. Mitchell was accurate in his original opinion of up to 48 hours, but he became clouded by the slight room temperature decrease and his misinterpretation of brain decomposition.

16. While it is common practice to have a neuropathologist examine the brain in cases where such expertise is required, in this case I do not feel that this was of benefit because the cause of death is strangulation, which would have led to death within minutes, and therefore, not lead to changes in

the brain that could be diagnosed microscopically. Mild to moderate cerebral edema could occur as a result of strangulation, but any forensic pathologist should be able to recognize this.

17. After completion of my evaluation and analysis of all the materials, it is my professional opinion, based upon a reasonable degree of medical certainty, that the length of time between the death of Valerie J. Hill and the time she was found was less than 48 hours, *and more likely less than 36 hours*, given the time frame of the death having occurred between Saturday, March 28, 1987, at 3:30 P.M., and Monday, March 30, 1987, at 11:30 A.M. Dr. Mitchell did not see the body until approximately 3:30 P.M. on March 30th, and all the estimations are based on his findings.

Dated: Pittsburgh PA
June 11, 1999


Cyril H. Wecht, M.D., J.D.